

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for producing an acrylamide polymer comprising steps of:

enzymatically hydrating acrylonitrile containing oxazole at a concentration of 5 mg/kg or less and hydrogen cyanide at a concentration of 1 mg/kg or less by an enzymatic method to yield acrylamide; and

polymerizing monomers containing the acrylamide.

2. (Currently Amended) The method for producing an acrylamide polymer according to claim 1, wherein, in a reaction step of during said hydrating acrylonitrile using an enzymatic method, the reaction is carried out until the concentration of acrylamide generated in a reaction solution becomes 30% by mass or more.

3. (Currently Amended) The method for producing an acrylamide polymer according to claim 1 or 2, wherein the enzymatic method is carried out using microbial cells as catalysts.

4. (Currently Amended) An acrylamide polymer obtained by a method comprising: hydrating acrylonitrile containing oxazole at a concentration of 5 mg/kg or less and hydrogen cyanide at a concentration of 1 mg/kg or less by an enzymatic method to yield acrylamide, and

polymerizing monomers containing acrylamide.

5. (New) The method for producing an acrylamide polymer according to claim 2, wherein the enzymatic method is carried out using microbial cells as catalysts.

6. (New) A method for producing an acrylamide polymer comprising: measuring the content of oxazole and hydrogen cyanide in an acrylonitrile sample;

enzymatically hydrating acrylonitrile containing oxazole at a concentration of 5 mg/kg or less and hydrogen cyanide at a concentration of 1 mg/kg or less identified by said measuring to yield acrylamide; and

polymerizing monomers containing the acrylamide.

7. (New) The method for producing an acrylamide polymer according to claim 6, wherein, during said hydrating, the reaction is carried out until the concentration of acrylamide generated in a reaction solution becomes 30% by mass or more.

8. (New) The method for producing an acrylamide polymer according to claim 7, wherein the enzymatic method is carried out using microbial cells as catalysts.

9. (New) The method for producing an acrylamide polymer according to claim 6, wherein the enzymatic method is carried out using microbial cells as catalysts.

10. (New) An acrylamide polymer obtained by a method comprising:  
hydrating acrylonitrile containing oxazole at a concentration of 5 mg/kg or less and hydrogen cyanide at a concentration of 1 mg/kg or less by an enzymatic method to yield acrylamide, and

polymerizing monomers containing acrylamide.

11. (New) A method for producing an acrylamide polymer comprising:  
measuring the content of oxazole and hydrogen cyanide in an acrylonitrile sample;  
reducing the concentration of oxazole in the acrylonitrile to 5 mg/kg or less of and reducing the concentration of hydrogen cyanide to 1 mg/kg or less;  
enzymatically hydrating acrylonitrile containing oxazole at a concentration of 5 mg/kg or less and hydrogen cyanide at a concentration of 1 mg/kg or less produced by said reducing to yield acrylamide; and

polymerizing monomers containing the acrylamide.

12. (New) The method for producing an acrylamide polymer according to claim 11, wherein, during said hydrating, the reaction is carried out until the concentration of acrylamide generated in a reaction solution becomes 30% by mass or more.

13. (New) The method for producing an acrylamide polymer according to claim 12, wherein the enzymatic method is carried out using microbial cells as catalysts.

14. (New) The method for producing an acrylamide polymer according to claim 11, wherein the enzymatic method is carried out using microbial cells as catalysts.

15. (New) An acrylamide polymer obtained by a method comprising:  
hydrating acrylonitrile containing oxazole at a concentration of 5 mg/kg or less and hydrogen cyanide at a concentration of 1 mg/kg or less by an enzymatic method to yield acrylamide, and  
polymerizing monomers containing acrylamide.